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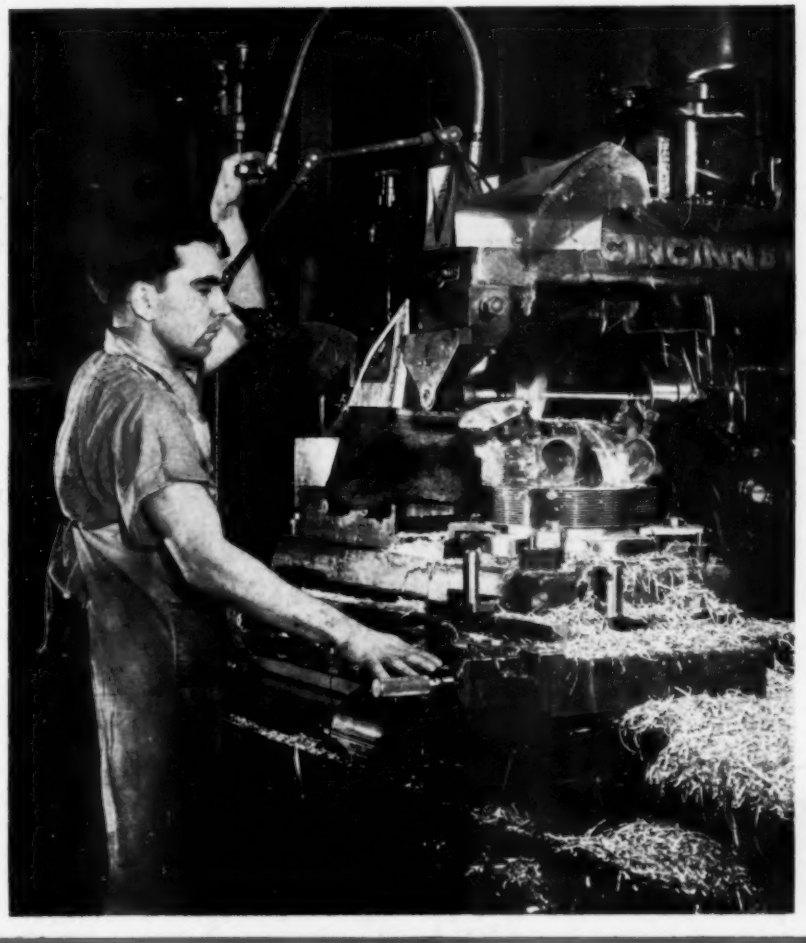
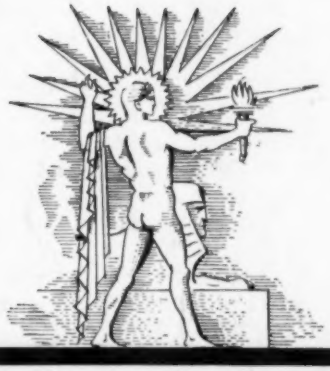
SCIENCE NEWS LETTER

THE WEEKLY SUMMARY OF CURRENT SCIENCE •





May 23, 1942

Speed in Machining

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A SCIENCE SERVICE PUBLICATION

Do You Know?

The tiny *hummingbird* can make a non-stop flight of 500 miles.

The *oar-fish* sometimes grows to be over 20 feet long and is called "king of the herrings."

American soldiers drink 6,000,000 cups of *coffee* every day, Army Quartermaster Corps officials estimate.

Grand Coulee dam will eventually provide water for irrigation of 1,200,000 acres of productive land.

Fatal *pulmonary embolism*—blockage of the pulmonary artery by blood clot—is very rare under the age of 50.

More than 52,000,000 forms in the Old Age Insurance Division of the Federal Government have been *microfilmed*.

Russian scientists have developed a *"heliorefrigerator"* which converts solar heat into low temperatures by means of ammonia coils.

In parts of southern France and northern Spain the *pea* (*pois*) was the standard of weight, and some believe that is the origin of avoirdupois.

Drinking glasses that bounce when dropped, and unbreakable plates, cups and bowls are to be furnished the Army by the Quartermaster Corps.

A new metallurgical process which converts low-grade *chromite* ores into a higher grade material has been developed by the U. S. Bureau of Mines.

Sheepskin has been found the warmest of all furs by the U. S. Army.

The brink of *Niagara Falls* is receding at the average rate of 2½ feet a year.

There is enough *ice* in Antarctica to encase the entire globe in a sheet 120 feet thick.

Titanium dioxide, the whitest substance known, is made from ilmenite, blacker than coal.

A *Javanese* woman is always bareheaded in the presence of men, but she decks her hair with flowers.

Elephants were used by ancient armies as tanks are used today.

Almost 20,000,000 *goldfish* are reared annually in the United States.

Children's *eyes* do not become mature until they reach the seventh or eighth year.

Long before the Wright brothers, Leonardo da Vinci built model *gliders*—which could fly.

By throwing a patch of light on a cloud at night it is possible to calculate the height of the *"ceiling"* over airports.

QUESTIONS DISCUSSED IN THIS ISSUE

Most articles which appear in SCIENCE NEWS LETTER *are based on communications to Science Service, or on papers before meetings. Where published sources are used they are referred to in the article*

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SCIENCE NEWS LETTER

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PSYCHIATRY

Electric Shock Treatment Shortens Delirium Tremens

New Method for Putting Pink Elephants To Rout Reported to Psychiatrists; Sub-Shock Doses Used

REMOVING pink elephants by electric shock is the new treatment announced by Dr. Nathaniel Berkwitz, of Minneapolis, at the American Psychiatric Association meeting in Boston. The duration of delirium tremens following prolonged alcoholism "appeared to be definitely shortened," said Dr. Berkwitz, by giving harmless "sub-shock" dosages of electric current.

Encouraging results were reported from the treatment of mental disease with electric shock, by Dr. Clarence A. Neymann, Dr. Vladimir G. Urse, and Dr. John Madden, of Cook County Hospital, Chicago.

These psychiatrists also used the treatment for chronic alcoholism with "some suggestion that we may have helped patients."

A recovery rate of about 59% in a mixed group of schizophrenics and of 100% in patients with depressions were obtained.

"These rather astounding, at present temporary, results," they believe, "are due to the fact that treatments were given daily and that the patient was treated until a deep retrograde amnesia (forgetfulness) was produced."

Possibilities of giving this treatment to patients outside a hospital were discussed by Dr. Louis Wender and Dr. David Beres of Hillside Hospital, Bellrose, N. Y., and Dr. Benjamin H. Balser of New York State Psychiatric Institute. Giving the treatment in the doctor's office or hospital dispensary saved many patients from commitment to mental hospitals and enabled a number of patients to continue at their jobs during the course of treatment.

Sub-convulsive shock by means of a special machine producing a high-voltage, low-amperage type of Faradic current, was described by Dr. Walter A. Thompson, of Rockland State Hospital, Orangeburg, N. Y. While it is not claimed that this treatment has curative value, it has been found useful in reducing anti-social behavior in some patients.

Statistical results from electric shock compare favorably with metrazol and insulin methods, according to Dr. Joseph Epstein, of Pinewood Sanitarium, N. Y., and he believes this method to be distinctly less hazardous.

Science News Letter, May 23, 1942

Cauliflower Brain

THE TERM cauliflower brain sounds like a particularly fanciful bit of slang but cases of mental deterioration in which the brain actually looks like a cauliflower have been reported. One such case was described by Dr. Andrew J. Akelaitis, of the University of Rochester School of Medicine.

The patient showed progressive mental deterioration with transient neurological symptoms and died at the age of 32 years. Examination of the brain after death revealed the shrivelling of the brain tissue in the frontal lobes and elsewhere into the little granules that gave it a cauliflower appearance. Microscopic examination showed that certain arteries were closed so that blood could not get through to nourish some parts of the brain.

Science News Letter, May 23, 1942

Almost Perfect Record

A STRIKING example of how psychiatry can prevent breakdowns in the Army was described by Dr. Wilfred Bloomberg, of Boston, and Capt. Robert W. Hyde, of the U. S. Army Medical Corps.

A practically perfect record for the past year has been achieved by psychiatrists at the Boston induction center. Examining more than 15,000 inductees, they missed only six who should have been turned down.

Pointing out that undetected cases of nervous and mental ailment in the last war have cost the government around $30,000 a piece, these psychiatrists urged a continuation of induction boards such as the one operating so successfully in Boston.

This Board not only turned down obvious mental disorders, but also psychopathic personalities, asocial and criminal types, alcoholics and homo-sexuals.

In other words, Boston selectees were turned down if they seemed more likely than the average (1) to break down under strain or (2) to be trouble makers.

Science News Letter, May 23, 1942

Reclaim Epileptic Manpower

CALLING the epileptic the "forgotten man," Dr. Joseph L. Fetterman and Miss Belle Greve, of Cleveland, Ohio, outlined the "Auracraft," a project for reclaiming this idle manpower of 500,000 epileptics in the United States, the great majority of whom are now unable to work, they pointed out.

The "Auracraft" is a work project in which each patient is assigned a "buddy" who works with him, Dr. Fetterman explained. Each watches out for the other and a nurse is in constant attendance in the event of an attack.

In Cleveland the "Auracraft" has already aided more than 50 epileptics to gain skill, training and self-confidence, enabling them in a number of cases to go into private industry.

Science News Letter, May 23, 1942

DR. ROBERT KHO-SENG LIM

The director of the Medical Relief Corps of the Chinese Red Cross was elected a foreign associate of the National Academy of Sciences by a unanimous vote—the highest honor which this scientific organization can confer upon a foreign scientist. Dr. Lim is on the Burma front, directing the work of nine mobile Red Cross units. His work is supported by agencies of United China Relief.

ENGINEERING

'Big Bertha,' Air Raid Siren, Undergoes a Voice Test

Placed on Manhattan Bridge in New York, and Pointed Toward City Hall, It Was Heard Above Mid-Day Traffic

A FEW eastern cities recently have heard the roar of a new siren whose banshee wail is the loudest sustained sound ever produced by man.

When the siren opens up, its cry is equal to the sound intensity of 1,000 large symphony orchestras all playing at once.

The siren demonstrations were conducted for the Office of Civilian Defense. The machine itself, a 95-horsepower Big Bertha, was developed by the Bell Telephone Laboratories for the National Defense Research Committee in cooperation with the U. S. Army. The OCD believes the siren will prove loud enough for air raid warnings. It will be commercially produced by the Chrysler Corporation and others.

Placed recently on Manhattan Bridge and pointed towards the City Hall in New York its sound was heard plainly above mid-day traffic in most of the downtown skyscraper area. The siren has also been used in Detroit and Washington to study the transmission of loud sounds in other congested areas, and so to afford some idea as to the number and size of sirens which will be required to give adequate coverage for air raid warnings.

Last summer the problem of developing a powerful air signal came to the attention of Dr. E. C. Wente of Bell Telephone Laboratories and his collaborators. For many years Dr. Wente has been interested in the development of loud speakers for motion picture theaters and public address systems. The air signal problem had to be approached from a different angle, however, because a much more powerful sound is required. The solution was an adaptation of the previously known principle of producing sound by chopping a stream of air with a rapidly rotating slotted disk.

The air stream is generated in the siren by a blower driven by an automobile engine. A rotating disk of sheet steel with slots in it, which is driven by a second gasoline engine, interrupts this air stream 440 times per second, producing a steady tone. The tone can be "wailed," however, by varying the speed of the chopper. To concentrate the sound largely in one direction it emerges through a horn. More than 25 kilowatts of acoustic power are projected by the siren and this is unquestionably the loudest sound that has ever been continuously generated by a single source.

When the siren was tested in New York, engineers of Bell Telephone Laboratories were stationed with sound meters at nine points in the area covered. They observed sound levels as much as 15 decibels above the background of the city noise; which satisfied them that a wide area can be covered by one of these powerful sirens if it is well above nearby rooftops.

Science News Letter, May 23, 1942

BIG BERTHA

This huge air raid siren is said to have a distinctly audible voice even in America's noisiest cities. Photo by Bell Telephone Laboratories.

MEDICINE

Active Paralysis Treatment Without Splints Is Not New

AN ACTIVE treatment of infantile paralysis in its early stages, somewhat like the now famous Sister Kenny treatment recently introduced into the United States by Miss Elizabeth Kenny of Australia, has been used at City Hospital, Cleveland, for over 20 years, Dr. J. A. Toomey told members of the American Academy of Pediatrics meeting in Cleveland.

Many children getting this treatment are discharged "cured" at the end of the quarantine period of three weeks, Dr. Toomey reported.

In this treatment at City Hospital, he explained, the paralyzed muscles are not kept motionless by splints or other devices, as was customary in treatment of infantile paralysis in this country during that period.

"The muscles are treated actively to the point of movement," he continued. "The patients seem much more comfortable than those immobilized completely. They respond more quickly; the time in the hospital is decreased, many children being discharged cured at the end of the quarantine period of three weeks.

"Certainly, such treatment does no harm. There was no lengthening of the muscles, no production of scoliosis (spinal curvature) and no more fixation than would follow the usual methods of therapy."

Science News Letter, May 23, 1942

Exposure to sunlight deteriorates natural *rubber* rapidly.

MEDICINE

Green-Lips Circulation Test May Tell When to Amputate

Injecting the Dye, Fluorescein, Into Soldier's Veins And Shining Ultraviolet on Foot, Shows State of Tissue

A GREEN-LIPS test which in an adapted form may help the Army Surgeon who has to decide whether or not to amputate a frozen or gangrenous foot to save a soldier's life, was demonstrated by Dr. Kurt Lange and Dr. Linn J. Boyd at the New York Medical College, Flower and Fifth Avenue Hospitals in New York.

The test is made with the dye, fluorescein, which gives off a greenish-yellow color under ultraviolet light.

By injecting the dye into a vein of the arm and shining an ultraviolet lamp on the patient's lips, the doctor can tell how fast the blood is flowing through the patient's body by the speed with which his lips turn green. The test is made in a slightly darkened room.

In some cases, such as gangrene and incarcerated intestines, it is important for the doctor to know whether any blood is getting through to the sick part of the body. Successful adaptation of the green-lips test, originally devised by Dr. Lange and Dr. E. Wollheim in Germany, for these other conditions is now reported by Dr. Lange and Dr. Boyd in the current issue of the Medical Clinics of North America.

Instead of turning the ultraviolet light on the patient's lips after injection of the dye into his veins, the light is turned onto his foot or whatever part of the body is suspected of being without adequate blood supply and therefore dying. In the case of incarcerated intestines, the surgeon can inject the dye during the operation, have the operating room lights lowered and shine the ultraviolet directly onto the suspected tissues. The presence or absence of the green fluorescence within a few minutes tells him whether or not that tissue needs to be removed.

The dye is safe, inexpensive and easily available, Drs. Lange and Boyd point out.

In testing speed of blood flow, the green lips showed that in normal grown-ups, the blood circulation time is 15 to 20 seconds. Patients with heart disease had circulation times varying from 20 to 68 seconds. Those with overactive thyroid glands had a very short circulation time, seven to 10 seconds, while those with underactive thyroids had a prolonged circulation time of 21 to 34 seconds.

Science News Letter, May 23, 1942

PSYCHOLOGY

Insulin Shock Treatment Acts By Making Patient "Forget"

Experiments With Rats Indicate Shock Treatment Breaks Up Recent, Unpracticed Habits, Leaving Others

THE INSULIN shock treatment, which is used to jolt the mentally ill back to the world of health and reality, may effect the improvement by making the patient "forget" his crazy ideas and behavior.

This suggestion is the result of experiments reported to *Science,* (May 15) by Drs. Louis Berman and Bernard Riess, of Hunter College, New York City.

Although insulin and other shock treatments for mental disease have been widely and successfully used on large numbers of patients, there has been no agreement among scientists and physi- widely and successfully. used on large is effected.

There seems no doubt, however, that during the shock treatments, the brain is deprived of its usual supply of oxygen.

The experiments of Drs. Berman and Riess were planned to test the theory that this oxygen deprivation, by its effect on nerve pathways in the brain, would act to break down recently formed and unstable habits of thought and behavior while leaving intact the older lifetime habits of the individual. If that were so, they reasoned, then the strange, "crazy" habits of the patient's mental disease would be the first to break down under the insulin treatment, because his insane behavior is relatively recent as compared with his habits of acting before the onset of his illness.

The experiments provided evidence to confirm their theory.

Rats were taught by the investigators to run a maze. After they had mastered it thoroughly, they were allowed to "overlearn" it by running through it 100 times. Later the same animals were taught to run another maze but on this maze they were not given any additional practise.

Next the animals were given the insulin shock treatment and later tested on both mazes.

Learning of the recently acquired maze habit was definitely impaired by the insulin treatment, it was found. But no definite impairment was noticed for the maze they had learned earlier and had had drilled into them by extra practise.

Science News Letter, May 23, 1942

ENGINEERING

Puffed-Up Sand Is New Heat Insulating Material

PUFFED-up sand, technically known as silica aerogel, is about twice as good a heat insulator as any other substance, John F. White of the research department of Monsanto Chemical Company told the American Institute of Chemical Engineers meeting in Boston.

The material is now being used chiefly in the insulation of high-temperature laboratory furnaces and extremely low-temperature chambers for the liquefaction and freezing of gases, Dr. White said.

When peace comes and new household refrigerators appear in the stores, the present three-inch walls can be reduced to one and a half inches, he said. The present six and a half cubic foot model can have its inside expanded to nine cubic feet without any increase of outside dimensions.

Science News Letter, May 23, 1942

ANTHROPOLOGY

New Caledonia a Melting-Pot With Two Races Blended

Tropical Island Occupied by American Forces Also Has Traces of at Least 20 Distinct Languages

NEW CALEDONIA, tropical island east of Australia occupied by American forces by agreement with its Free French government, is a melting-pot of the South Seas, ethnographic data assembled at the Smithsonian Institution indicate. The people are a blend of two racial stocks, the small-statured, very dark Melanesian and the taller, more robust, lighter-skinned Polynesian.

Before the coming of white men encouraged freer movement among the people, the population of New Caledonia was divided into small, jealously isolated, mutually hostile tribal groups. This was largely the result of the island's topography, reminiscent of the ruggedness and inaccessibility of the Scottish highlands which gave the place its name.

Five hundred miles in length and 35 miles wide, the island has a high backbone of mountains, with spurs running down almost to the water's edge, forming many closely penned valleys with fertile floors. In such a situation there was every inducement to stay at home, every discouragement to travel.

Early isolationism on the part of New Caledonian tribes is reflected in the language setup. Traces of at least 20 distinct languages have been found in the speech of the natives. The old original language, however, is fast losing its outlines as it blends into a lingua franca which is basically a degenerate French.

Not much is known about the ethnology of the natives. The only scholarly study extant is that of a missionary, Rev. Maurice Leenhardt, who spent a quarter-century among them prior to 1930. This, however, does not pretend to be complete, but represents the notes of a man whose primary occupation was in the mission field.

The native religion was a primitive polytheism, and included belief in a kind of shadowy double for each person, called a "ko," who remained "in residence" during waking hours but went out on its own affairs during sleep, frequently getting into serious mischief. Hence it was strictly tabu to awaken a sleeping man, lest his "ko" fail to get back on time from its wanderings.

Science News Letter, May 23, 1942

RESOURCES

Tropical Haiti Hastens Production of Rubber

Production Now Is at Rate of 350 Pounds a Month; Some 2,500,000 New Rubber Plants Have Been Set Out

RICH, verdant Haiti, where once the tom-toms of horrid Voodoo rites boomed, has settled down to hard work among her once-abandoned rubber trees, and in cooperation with this country is producing the precious stuff at the rate of 350 pounds per month from the few old trees now bearing.

Some 2,500,000 new rubber plants have been set out, and estimates reveal at least 100,000 acres which could give the United States a large near-by supply. Haiti is tapping her old trees with newest, proved techniques, experimenting with splitting Hevea seeds to get two plants from one seed, growing rubber seedlings.

Behind this forward-looking enterprise is a unique organization, begun well before the war in the Pacific. It is called the Societe Haitiano-Americaine de Developpement Agricole—or the Haiti-American Society for development of agriculture. Popularly known as SHADA, it was formed last year as the outcome of discussions with United States agriculture advisers. It is a cooperative venture between this country and the South American Republic which a few years ago faced economic disaster from wartime loss of trade.

Foreseeing the Pacific tragedy, SHADA began preparing itself to supply this country with rubber, fibers, drugs, now cut off from the Netherlands Indies, Philippines, Malaya and India. Today SHADA's rubber plantations have a head start on the big job of increasing rubber planting in the Americas; her rubber enterprise is surpassed only by the Ford plantations in the Amazon valley.

Major operations, as reported by SHADA's youthful president and general manager, Thomas A. Fennell, are:

Bayeux Division—This plantation has nearly a million growing rubber plants and about 2,500,000 rubber seeds. Tapping of old rubber trees at Bayeux has started.

Forests Division—A sawmill at Morne de Commissaires has been turned over to SHADA for operation. In the last three months of 1941 the mill cut about 100,000 board feet of pine lumber. A second and larger mill is being installed.

Grand'Anse Division—A state-owned tract of approximately 30,000 acres under preparation. About 1,000,000 Hevea seeds planted in nurseries.

SHADA also is attempting to develop handicrafts for Haiti's large labor supply. Samples have been sent to New York importers.

SHADA hopes the battle of production may be won in the American Hemisphere through just such cooperative ventures among the Americas.

Science News Letter, May 23, 1942

BOOKS

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PSYCHOLOGY

World Conquest For Ideals Must Be Slogan For Democracy

To Think Americans Can Be Swayed by Foreign Talk Is False Assumption of Folklore, Scientist Says

THE BILL OF RIGHTS must become more important than the refrigerator if the Nazi war of ideas is to be wiped out, Dr. Mark Graubard, physiologist in charge of industrial education for the Defense Health and Welfare Service, said. In addressing the American Academy of Arts and Sciences in Boston, Dr. Graubard made it plain that he expressed his own views and not any Government views or plans.

Democracy should not be on the defensive in this war of ideas, Dr. Graubard told his audience.

"World conquest must be democracy's slogan," he declared. "Every corner of the globe must come under its rule and every corner will subsequently have to be guarded against infection."

Worries about the swaying of our people by enemy propaganda are needless, Dr. Graubard indicated. To think that people can be fooled and manipulated at will by words properly handled is a false assumption by those under the sway of the folklore of radicalism. The lessons of anthropology and history disprove this notion.

"Man lives within the frame of culture patterns and belief patterns which he finds consistent and logical." Dr. Graubard said. "Changes in these patterns he opposes at the beginning, and often resists for hundreds of years.

"People do not give up the caste system, slavery, belief in astrology, in witchcraft, racial superiority, prestige values, democracy and similar belief patterns because of arguments or words no matter how skilfully they are presented.

"On the other hand, we know that there is a flux in beliefs, which have their periods of rise and decline. As illustrations, we might cite the course of astrological belief among scientists, the witchcraft delusion of the Middle Ages, the rise of nationalism and racialism.

"It is a fact that during the eighteenth century, democracy spread like wildfire through Europe and even Napoleon could not stop the spirited diffusion of the slogans, liberty, equality and fraternity. People were inspired. Democracy was a dynamic faith, a hope and a goal.

"In the nineteenth century, the passion of this faith was somewhat diminished perhaps for several reasons. The good it brought was taken for granted and, with the rise of science and social progress, there was great stress of mechanism in science and philosophy and of materialism in society. The refrigerator became the chief goal and the truth and wisdom of the Bill of Rights were seldom referred to or remembered.

"Democracy must rediscover and strengthen the old faith which led to its victory in the past and to the inspiration of millions all over the world."

Science News Letter, May 23, 1942

FINISHED AND ROUGH

The forged cylinder head on the right is made by extrusion through a die. The finished head at left shows the cooling fins which are cut on the exterior by a high-speed milling machine. The new machine for this purpose, shown on the front cover, is said to work with the speed of a wood-working machine.

AERONAUTICS

New Method for Making Cylinder Heads Cuts Weight

See Front Cover

REDUCTION of weight in airplane engines to less than one pound per horsepower, through the Wright Aeronautical Corporation's new method of forging cylinder heads, promises to give American airplanes a considerable edge over enemy combat aircraft in speed, altitude, load and range.

The new forged heads are made by a process of extrusion through a die, and nine separate drop-hammer operations are eliminated. The cooling fins are cut on the exterior of the cylinders by a high-speed milling machine.

The new head allows twelve to fifteen per cent increase in power output without weight increase. The new development is applicable to the big 2,000 horsepower engines that power such ships as the Douglas B-19 bomber.

Science News Letter, May 23, 1942

● RADIO

Saturday, May 30, 1:30 p.m., EWT

"Adventures in Science," with Watson Davis, director of Science, over Columbia Broadcasting System.

Dr. A. Newton Richards, chairman of the Committee of Medical Research, Office of Scientific Research and Development, will talk on Medicine and the War.

Tuesday, May 26, 7:30 p.m., EWT

Science Clubs of America programs over WRUL, Boston, on 6.04, 9.70 and 11.73 megacycles.

One in a series of regular periods over this short wave station to serve science clubs, particularly in the high schools, throughout the Americas. Have your science group listen in at this time.

PALEONTOLOGY

Thighbone of Dinosaur Found in Washington, D. C.

DINOSAURS wallowed through swamps where now the National capital rears its monumental buildings. New evidence to this effect has just been uncovered, in the digging up of the broken upper part of a huge saurian thighbone in a new excavation being made for the D. C. filtration plant. Workmen are now keeping a sharp lookout for possible additional fossils.

The bone was identified as belonging to one of the sauropod group of dinosaurs, by Dr. Charles W. Gilmore, curator of vertebrate paleontology at the U. S. National Museum. These creatures lived during Cretaceous geologic time, about 150 million years ago. Two finds of dinosaur bones have previously been made in Washington. They were of rather fragmentary fossils.

Judging from the size of the present fossil, Dr. Gilmore said, the original owner was a lumbering beast about ten feet high at the hips and fifty or sixty feet long, weighing approximately ten tons. The huge reptile was an unaggressive vegetarian, however. Apparently, from the geological evidence, it was trapped in a small pond or mudhole and so perished.

Science News Letter, May 23, 1942

MEDICINE

Athlete's Foot Treatment Should Be Left to Doctor

A WARNING against use of the phenol-camphor mixture for athlete's foot by untrained persons is given in the *Journal of the American Medical Association,* (May 9).

The *Journal* states that it has been informed that "a number of investigations are now being conducted to determine the extent of the causticity of the phenol-camphor mixture and its possible benefits and dangers."

"Other factors which have been suggested as meriting consideration," the editorial continues, "are the possible aggravation of an existing irritation and the absorption of phenol if the medicament is liberally applied and the affected area subsequently enclosed in bandages.

"Until the studies are concluded, treatment of 'athlete's foot,' ringworm and other fungous infections with a mixture of phenol and camphor or any other potent remedies is best intrusted to the qualified physician."

The phenol-camphor mixture for treatment of athlete's foot was described in a note by Dr. Edward Francis, (retired) of the U. S. Public Health Service, in the Dec. 6, 1941, issue of the *A.M.A. Journal.* The mixture, the *Journal* states, consists of "3 cubic centimeters of U.S.P. phenol and 3 grams of U.S.P. camphor, the entire mass being rubbed together in a mortar until it is liquefied. An alternate formula proposed in the communication was three parts of phenol and one part of camphor. Although the mixture is purported to be non-irritating to the skin, the communication warned that the phenol-camphor preparation should not be applied to the wet skin, since water has been reported to permit a release of the phenol with the result that it becomes caustic."

Science News Letter, May 23, 1942

AGRICULTURE

Fattening Cows Will Mean More Milk to Win the War

MILK to win the war and feed our allies means first fattening up the cows, it appears from a report by Dr. Samuel Brody, of the University of Missouri's Department of Dairy Husbandry (*Science,* May 8).

Daily milk production increases in direct proportion to the weight of the cow, Dr. Brody found.

If the cost of feeding the cow is also directly proportionate to the weight of the animal, then profits should go up as the body weight and milk production increase, he indicates. This is because so large a part of the expense of commercial milk production is for the labor of milking, feeding, cleaning, bookkeeping, housing and so on. It costs no more to milk a big cow than a small one.

Unfortunately, Dr. Brody points out, it is not yet known just how the cost of feeding does vary with body weight. It is possible that a 1,600 pound cow would get less, in terms of milk, out of her feed, because she would waste so much more energy in the effort of moving her heavy bulk around.

On the other hand, the fat animals seem to make fewer and slower movements than do small animals. So the total amount of food-energy used up in exercise may actually be less for the big cows.

"The energy expenditure at approximately physiologically-equivalent work levels parallels the basal-metabolism energy in 1,500-pound horses, 700-pound ponies, and 150-pound men," Dr. Brody states.

Science News Letter, May 23, 1942

IN SCIEN

BIOLOGY

Tobacco Mosaic Virus Lives for 28 Years

VIRUS of tobacco mosaic, a serious plant disease, has shown an astonishing longevity in a laboratory bottle, reports Dr. H. A. Allard of the U. S. Department of Agriculture (*Science* May 8). He set a preparation of the virus aside in 1914, with no special treatment to keep it from spoiling or "running down." Tested on healthy young tobacco plants in 1936, and again in 1942, it proved still capable of producing the typical symptoms of mosaic.

Science News Letter, May 23, 1942

ARCHAEOLOGY

Stone Age Implements Found In Cave

FLINT implements of a New Stone Age race that lived 7,000 or 8,000 years ago have been found in a cave on Mt. Carmel in Palestine by an American expedition. The find was announced by Prof. Millar Burrows, president of the American Schools of Oriental Research, whose home office is at Yale University. The digging was done under the direction of M. Stekelis, resident archaeologist in Palestine.

The finds consist of stone arrow-heads, scrapers, borers, awls, needles and saws. Particularly interesting are wooden sickles equipped with jagged flint teeth. These indicate that the people who lived in the cave had passed from a purely hunting mode of life to the cultivation of grain—they had made the transition from Old Stone Age to New. Another mark of New Stone Age culture is the presence of primitive pottery.

The culture level represented by these remains, already known in other localities, is known to archaeologists as late Natufian.

The caves in Mt. Carmel, famous since Old Testament times for their connection with the story of the prophet Elijah and the 450 priests of Baal, have been inhabited by human beings since very early in the Old Stone Age. Even now, shepherds sometimes use them for refuge in time of storm.

Science News Letter, May 23, 1942

FIELDS

SEISMOLOGY

Earthquake Centered in Mountains of Ecuador

THE EARTHQUAKE that killed more than 100 people in Guayaquil, Ecuador, on Wednesday, May 13, had its epicenter in the high mountains between 60 and 100 miles northeast of the city. The location was determined by seismologists of the U. S. Coast and Geodetic Survey and of the Jesuit Seismological Association in St. Louis, working independently, as approximately 1 degree south latitude, 79 degrees west longitude. The shock, which was a severe one, began at 10:13.3 p.m., E.W.T.

Observatories reporting through Science Service were: St. Louis University, Georgetown University, Fordham University, Spring Hill College at Mobile, Pennsylvania State College, the University of Michigan, the University of Alaska, the station of the U. S. Coast and Geodetic Survey at Ukiah, Calif., and the Dominion Observatory at Ottawa.

Science News Letter, May 23, 1942

PSYCHOLOGY

Beautiful Nurses Help Pilots Overcome Boredom

"FLYING fatigue," for which the old fashioned name is boredom, is the greatest enemy of military pilots while they are forced to cease flying during convalescence from illness or injury, according to a recent *Bulletin from Britain*.

"The sudden change from the feverish activity of a fighter station to the shrouded immobility of the average hospital would work more harm than the original damage from which the airman is in need of repair," states the British Air Ministry.

"It is during periods of convalescence that the symptoms sometimes appear of what has become known as "flying fatigue"—a sort of lethargy and inertia which at best retards recovery, and at its worst unfits a pilot for further flying duties."

This danger, the *Bulletin* continues, is shared equally by men suffering from minor illnesses as well as those wounded in action or involved in an accident.

To overcome this boredom, hotels and mansions "in the most beautiful parts of England" have been converted into hospitals which look more like expensive resorts. All sports are provided together with gymnasium. Fliers may entertain their sweethearts or wives.

"If," continues the *Bulletin*, "(the flier) feels that he hates the sight of the nurses—which is well nigh impossible, because they are very pretty nurses —he can go off for a long walk. Instead of irksome restrictions, there has been substituted a code of conduct."

Science News Letter, May 23, 1942

PHYSIOLOGY

Early Teething May Be Due To Over-Active Adrenals

THE precocious baby whose parents boast about his early teething may owe his precocity to over-activity of his adrenal glands.

Doses of the cortical hormone of these glands, given on their second day of life, made baby rats cut their teeth 24 hours earlier and open their eyes one and one-half to three days earlier than their untreated litter mates, Dr. Michael G. Mulinos and Dr. Leo Pomerantz, of Columbia University, report (*Science*, May 8).

The scientists expect to search for the many other changes which they believe may also take place when the baby rats get the hormone treatment.

They cite the case of a one-year-old baby boy who had a tumor of the adrenal gland cortex and had as many teeth as a three-year-old and the bone development of a five-year-old, reported by Dr. I. Fraser recently in the *British Journal of Surgery*.

This and some of the marked bodily changes in grown-ups who suffer adrenal cortex tumors may be due to excessive amounts of the hormone, the findings on the baby rats suggest. Heretofore it has been supposed that such changes were due to sex hormones produced by the tumors, rather than to the adrenal hormone itself.

This hormone is already known for being able to maintain life, maintain normal levels of carbohydrates in the tissues and maintain water balance and normal levels of salt and potassium in the body. To this may be added, it now appears, the important function of influencing bodily development.

Science News Letter, May 23, 1942

METALLURGY

Scale on Iron and Steel Prevented in Experiments

DISCOVERIES at the National Bureau of Standards show how iron and steel can be heat treated in airless furnaces to speed production in war industries.

One of the difficulties in hardening or annealing ferrous metals through use of high temperatures in ordinary air has been the formation of oxide scale that must be removed by pickling, grinding or polishing. This costs time and money and delays the flow of production.

Investigations by V. C. F. Holm, metallurgist at the Bureau of Standards, show that if the heating is done in a practically inert atmosphere or in a vacuum furnace, iron and steel can be heat-treated without oxidation.

A rust or oxide film can be removed by heating in a vacuum without wearing away any of the metal, the experiments also showed. Some carbon must be present in the metal and some of this is removed with the rust. Thus pieces of rusty iron that contained a small amount of carbon were brightened in the furnace in 15 to 20 minutes at a temperature of 1,470 degrees Fahrenheit. But rusty high-purity iron could not be brightened at 2,280 degrees. Rust is prevented, however, in either case.

Science News Letter, May 23, 1942

MEDICINE

Conscientious Objectors May Serve in Hospitals

THE GROWING need of manpower at the Colorado State Hospital for the Insane may be met by the assignment of conscientious objectors, as a possible preliminary test to assigning objectors to this type of work all over the country.

A hospital for the insane is always undermanned, even in peace times, and the Colorado institution, with more than 4,000 patients, has lost many attendants. Five patients have escaped in recent days and this is attributed to lack of manpower by Supt. F. H. Zimmerman.

Col. Lewis F. Kosch, chief of camp operations of selective service, offered Dr. Zimmerman the use of 20 objectors from the Rocky Mountain camp near Colorado Springs. The men would be fed and uniformed by the hospital, and given an allowance of $2.50 a month each for incidental expenses.

Science News Letter, May 23, 1942

•Recent Books of Science

Recent books previously unreviewed in SCIENCE NEWS LETTER *are listed under subject headings in this issue. On the regular book review page each week all books received up to the time of going to press are listed.*

Aeronautics

AERO-ENGINE PRACTICE—E. Molloy, ed.—*Chemical Pub. Co.*, 132 p., illus., $2.50.

AIR NAVIGATION, Some Problems and Their Solution—M. J. Hearley—*Longmans, Green*, 90 p., $1.75.

AIRCRAFT ASSEMBLY—C. F. Marschner—*Pitman*, 104 p., illus., $1.

AIRCRAFT CONSTRUCTION—D. Hay Surgeoner—*Longmans, Green*, 116 p., illus., $1.25.

AIRCRAFT POWERPLANT MANUAL — G. B. Manly—*Drake*, 759 p., illus., $4.

AIRWAYS, The History of Commercial Aviation in the United States—Henry Ladd Smith—*Knopf*, 445 p., $3.50.

AVIATION INSTRUMENT MANUAL — *Chemical Pub. Co.*, 396 p., illus., $5.

ELEMENTARY AIRCRAFT MATHEMATICS, A Revision Course—J. B. Channon and A. McLeish Smith—*Longmans, Green*, 97 p., 60c.

ELEMENTARY NAVIGATION FOR AIR TRAINING—C. Barrington Gyford—*Longmans, Green*, 48 p., 40c.

HYDRAULIC EQUIPMENT—E. Molloy and E. W. Knott, eds.—*Chemical Pub. Co.*, 132 p., illus., $2.50.

A MANUAL OF AIRCRAFT DRAFTING—Carl Lars Svensen—*Van Nostrand*, 272 p., illus., $2.75.

NAVIGATION OF AIRCRAFT (rev. ed.), 230 p.; AIR PILOTS' DEAD RECKONING TABLES; A Working Supplement to Navigation of Aircraft, 48 p.—Logan C. Ramsey—*Ronald Press*, $4.50 a set.

NEEDED — WOMEN IN AVIATION — Dickey Meyer—*McBride*, 219 p., illus., $2.

THE NEW ALPHABET OF AVIATION—Edward Shenton—*Macrae-Smith*, illus., $2.

STARTERS AND GENERATORS—E. Molloy and E. W. Knott, eds.—*Chemical Pub. Co.*, 124 p., illus., $2.50.

THUNDER ALOFT, U. S. Air Power Today . . . Tomorrow—Kent Sagendorph—*Reilly and Lee*, 300 p., $2.50.

VICTORY THROUGH AIR POWER—Alexander P. De Seversky—*Simon and Schuster*, 354 p., illus., $2.50.

WAR WINGS, Fighting Planes of the American and British Air Forces—David C. Cooke—*McBride*, 206 p., photographic illus., $2.75.

WHAT THE CITIZEN SHOULD KNOW ABOUT THE AIR FORCES—Harold E. Hartney—*Norton*, 226 p., $2.50.

YOUNG AMERICA'S AVIATION ANNUAL, 1941-1942—Frederck P. Graham and Reginald M. Cleveland, eds.—*McBride*, 242 p., illus., $2.

YOUTH MUST FLY, Gliding and Soaring for America—E. F. McDonald, Jr.—*Harper*, 221 p., illus., $2.50.

Agriculture, Horticulture

A BIBLIOGRAPHY OF THE AGRICULTURE OF THE AMERICAN INDIANS—Everett E. Edwards and Wayne D. Rasmussen, comps. — *Govt. Print. Off.*, 107 p., 15c.

FARM MORTGAGE CREDIT FACILITIES IN THE UNITED STATES—Donald C. Horton, Harald C. Larsen and Norman J. Wall—*Govt. Print. Off.*, 262 p., 55c.

FLORICULTURE, Fundamentals and Practices—Alex Laurie and Victor H. Ries—*McGraw-Hill*, 496 p., illus., $4.

THE FOOD GARDEN—Edna Blair—*Macmillan*, 147 p., illus., by Laurence Blair, $2.

GARDEN EASILY! Selected Plants for Easy Gardening and Ideas for Their Arrangement—H. K. Morse—*Scribner's*, 208 p., $2.50.

GARDENING—Without Bunk—Sam J. Boal—*Putnam's*, 145 p., $1.75.

HOW TO GROW FOOD FOR YOUR FAMILY — Samuel R. Ogden—*Barnes*, 139 p., illus., $2.

IMPROVED MILK GOATS, A Guide for Breeders, Dairymen and Exhibitors—Will L. TeWalt—*Orange Judd*, 145 p., illus., $1.50.

METHODS OF PLANT BREEDING—Herbert Kendall Hayes and Forrest Rhinehart Immer — *McGraw-Hill*, 432 p., illus., $4.

PROGAGATION OF PLANTS (rev. and enl.)—M. G. Kains and L. M. McQuesten—*Orange Judd*, 639 p., illus., $3.50.

SEEDING AND PLANTING IN THE PRACTICE OF FORESTRY (new ed.)—James W. Toumey and C. F. Korstian—*Wiley*, 520 p., illus., $5.

Anthropology

ANASAZI BASKETRY, Basket Maker II Through Pueblo III, A Study Based on Specimens from the San Juan River Country—Earl H. Mossis and Robert F. Burgh—*Carnegie Institution of Washington*, 66 p., 43 pl., paper $1.50; cloth, $2.50.

CULTURE ELEMENT DISTRIBUTIONS: XVIII, UTE-SOUTHERN PAIUTE—Omer C. Stewart—*Univ. of Calif. Press*, 125 p., $1.25. CULTURE ELEMENT DISTRIBUTIONS: XIX, CENTRAL CALIFORNIA COAST—John P. Harrington—*Univ. of Calif. Press*, 46 p., 50c.

KINSHIP SYSTEM OF THE SEMINOLE—Alexander Spoehr—*Field Museum of Natural History*, 113 p., 50c.

THE MAYAWYAW RITUAL; 5, Go-Betweens and Priests—Francis Lambrecht—*Catholic Anthropological Conference, Catholic Univ. of America*, 41 p., $1.

PRINCIPLES OF ANTHROPOLOGY—Eliot Dismore Chapple and Carleton Stevens Coon — *Holt*, 718 p., $3.75.

THE PUEBLOS, A Camera Chronicle — Laura Gilpin—*Hastings House*, illus., $3.

THE SOCIAL ORGANIZATION OF THE WESTERN APACHE—Grenville Goodwin—*Univ. of Chicago Press*, 701 p., $4.50.

Astronomy

ANNALS OF THE ASTROPHYSICAL OBSERVATORY OF THE SMITHSONIAN INSTITUTION, Vol. 6—C. G. Abbot, L. B. Aldrich and W. H. Hoover—*Smithsonian Institution*, 207 p., illus., $2.65.

THE STARS IN MYTH AND FACT — Oral E. Scott—*Caxton*, 347 p., illus., $3.

Biology

BIOLOGY FOR BETTER LIVING—Ernest E. Bayles and R. Will Burnett—*Silver Burdett*, 754 p., illus., $2.28.

EXPERIENCES IN LIFE SCIENCE—Edna Craig and George K. Stone—*Macmillan*, 186 p., illus., 88c.

GENERAL BIOLOGY FOR COLLEGES—Gairdner B. Moment—*Appleton-Century*, 661 p., illus., $4.

IMMUNITY AGAINST ANIMAL PARASITES — James T. Culbertson—*Columbia University Press*, 274 p., $3.50.

AN INTRODUCTION TO BIOLOGY—J. C. Cross—*Mosby*, 507 p., illus., $1.90.

LABORATORY EXERCISES IN GENERAL BIOLOGY—James W. Mavor—*Macmillan*, 305 p., illus., $2.50.

Botany

DESERT WILD FLOWERS (rev. ed.)—Edmund C. Jaeger—*Stanford Univ. Press*, 322 p., illus., $3.50.

FLOWERS, FRUITS, SEEDS—Bertha M. Parker—*Row, Peterson*, 35 p., colored illus. 28c.

OUR SHADE TREES (2d ed.)—Ephraim Porter Felt—*Orange Judd*, 316 p., illus., $2.

PLANT FAMILIES, How to Know Them—H. E. Jacques—*Published by Author, Mt. Pleasant, Iowa*, 174 p., illus., $1.50 spiral; $2.50 cloth.

PRACTICAL PLANT ANATOMY — Adriance S. Foster—*Van Nostrand*, 155 p., $2.50.

Chemistry

A. C. S. ANALYTICAL REAGENTS, Specifications Recommended by the Committee on Analytical Reagents of the American Chemical Society—*American Chemical Society*, 132 p., $1.

ANHYDROUS ALUMINUM CHLORIDE IN ORGANIC CHEMISTRY—Charles Allen Thomas, Mary B. Moshier, Herbert E. Morris and Ross W. Moshier—*Reinhold*, 972 p., $15. (American Chemical Society Monograph Series, no. 87).

CHEMICAL DICTIONARY — F. H. Campbell, comp.—*Chemical Pub. Co.*, 85 p., $2.50.

CHEMICAL ENGINEERING FOR PRODUCTION SUPERVISION — David E. Pierce — *McGraw-Hill*, 232 p., illus., $2.50.

COMPARATIVE BIOCHEMISTRY. INTERMEDIATE METABOLISM OF FATS. CARBOHYDRATE METABOLISM. BIOCHEMISTRY OF CHOLINE — Howard B. Lewis, ed.—*Jaques Cattell Press*, 247 p., $3.

EXPERIMENTAL PHYSICAL CHEMISTRY—W. G. Palmer—*Cambridge* (*Macmillan*), 321 p., $2.75.

HOW TO SOLVE PROBLEMS IN QUANTITATIVE ANALYSIS—Saul B. Arenson — *Crowell*, 89 p., 75c.

INTRODUCTION TO CHEMICAL THERMODYNAMICS—Luke E. Steiner—*McGraw-Hill*, 516 p., $4.

INTRODUCTORY ORGANIC CHEMISTRY With Certain Chapters of Biochemistry—E. Wertheim—*Blakiston*, 482 p., illus., $3.

A SIMPLIFIED SYSTEM OF ORGANIC IDENTIFICATION—J. L. B. Smith—*Chemical Pub. Co.*, 48 p., $1.50.

Economics, Social Science

THE ANALYSIS OF ECONOMIC TIME SERIES—H. T. Davis—*Principia Press*, 620 p., $5.

BRITISH UNEMPLOYMENT PROGRAMS, 1920-1928—Eveline M. Burns—*Social Science Research Council*, 385 p., $2.75.

CHANGES IN ASSETS AND LIABILITIES OF FAMILIES, Five Regions—Dorothy S. Brady and others—*Govt. Print. Off.*, 226 p., 25c. (U. S. Dept. of Agr., Pub. No. 464).

CRIMINOLOGY, A Scientific Study of the Modern Crime Problem—Eligius Weir—*Institute for the Scientific Study of Crime*, 329 p., $3.

DEVELOPMENT OF RESOURCES AND STABILIZATION OF EMPLOYMENT IN THE UNITED STATES—*U. S. National Resources Planning Board*, 409 p., $1.20.

ELEMENTS OF POLICE SCIENCE—Rollin M. Perkins—*Foundation Press*, 651 p., illus., $4.75.

INDUSTRIALIZATION OF THE WESTERN PACIFIC—Kate L. Mitchell—*Institute of Pacific Relations*; 322 p., $2.50 (An Economic Survey of the Pacific Area, Part III).

LAND, LABOR, AND WEALTH, A Handbook of Economic Terms—Ellen Winsor and Rebecca Winsor Evans, comps.—*Caxton*, 117 p., $2.

LONG-RANGE PROGRAMMING OF MUNICIPAL WORKS—U. S. National Resources Planning Board—*Govt. Print. Off.*, 72 p., 30c.

MANAGEMENT IN FAMILY LIVING—Paulena Nickell and Jean Muir Dorsey—*Wiley*, 477 p., $3.

NATIONAL RESOURCES DEVELOPMENT REPORT FOR 1942, Jan. 1942—U. S. National Resources Planning Board—*Govt. Print. Off.*, 227 p., 55c.

OCCUPATIONAL MOBILITY, Democratic Efficiency Through the Use of Human Resources —Omar Pancoast, Jr.—*Columbia Univ. Press*, 155 p., $1.75.

OUTPOSTS OF DEFENSE—William H. Hass—*Univ. of Chicago Press*, 81 p., 50c.

POSTWAR PLANNING IN THE UNITED STATES —George B. Galloway—*Twentieth Century Fund*, 158 p., 60c.

RAMPARTS OF THE PACIFIC—Hallett Abend—*Doubleday, Doran*, 332 p., $3.50.

RUSSIA'S ECONOMIC FRONT FOR WAR AND PEACE, An Appraisal of the Three Five-Year Plans—A. Yugow—*Harper*, 279 p., $3.

SELLING HOME FURNISHINGS, A Training Program—Roscoe R. Rau and Walter F. Shaw—*Govt. Print. Off.*, 275 p., illus., 45c.

SOCIAL SECURITY YEARBOOK, 1940—Federal Security Agency, Social Security Board — *For sale by Supt. of Documents*, 347 p., 70c.

Education

AMERICANS ALL, Studies in Intercultural Education — *Natl. Education Assn.*, 385 p., $2. Sponsored by the Dept. of Supervisors and Directors of Instruction of the Natl. Education Assn., Natl. Council of Teachers of English and Soc. for Curriculum Study.

AUDIO-VISUAL AND TEACHING AIDS ON LATIN AMERICA, Pan-Americana, Supplement 1942 —Lili Heimers, comp.—*Visual Aids Service, New Jersey State Teachers College, Upper Montclair, N. J.*, 22 p., 50c.

OPINION CONFLICT AND SCHOOL SUPPORT— Frederick T. Rope—*Teachers College, Columbia University*, 164 p. $2.

Electrical Engineering

DICTIONARY OF RADIO AND TELEVISION TERMS —Ralph Stranger—*Chemical Pub. Co.*, 252 p., $2.50.

GETTING ACQUAINTED WITH ELECTRICITY — Alfred Morgan—*Appleton-Century*, 346 p., illus., $3.

ILLUMINATING ENGINEERING NOMENCLATURE AND PHOTOMETRIC STANDARDS—*Illuminating Engineering Society*, 42 p., 25c.

THE RADIO AMATEUR'S HANDBOOK, Special Defense Edition, 1942—Headquarters Staff of the American Radio Relay League—*American Radio Relay League*, 288 p., illus., $1.

Engineering

AMERICAN BRIDGES AND DAMS—Paul Zucker —*Greystone Press*, 15 p., 48 pl., $1.75.

ENGINEERING AS A CAREER, A Message to Young Men, Teachers and Parents—*Engineers' Council for Professional Development*, 36 p., 10c.

GRINDER Job Training Units, 111 p., illus., $1.25; BENCH WORK UNIT, 155 p., illus., $1.35; LATHE, Job Training Units, 143 p., illus., $1.35; INSTRUCTOR'S GUIDE, All Units for Lathe, Drill Press, Milling Machine, Grinder, Shaper and Planer, and Bench Work, 39 p., 75c.—*American Technical Society*. (Dunwoody Series Machine Shop Training Jobs).

HEATING, VENTILATING, AIR CONDITIONING GUIDE 1942—*American Society of Heating and Ventilating Engineers*, 1251 p., $5.

INSPECTION OF METALS—Harry B. Pulsifer—*American Society of Metals*, 180 p., illus., paper $1; cloth $1.50.

AN INTRODUCTION TO SHIPBUILDING—Shipbuilding Division, Bethlehem Steel Co. — *Govt. Print. Off.*, 67 p., illus., 20c.

JOBS IN THE MACHINE SHOP—Ernest L. Bowman—*Science Research Associates*, 48 p., illus., 60c.

MACHINE SHOP WORK—John T. Shuman and others—*American Technical Society*, 499 p., illus., $3.50.

PREVENTING FATAL EXPLOSIONS IN COAL MINES—Edward A. Wieck—*Russell Sage Foundation*, 156 p., 75c.

PUBLIC WORKS ENGINEERS' YEARBOOK, 1942 *American Public Works Assn.*, 387 p., $3.50.

General Science

APPLIED SCIENCE — Charles Wilbur Banks — *Wiley*, 212 p., $1.75.

THE BOOK OF KNOWLEDGE ANNUAL 1942— E. V. McLoughlin, ed.—*Grolier Society*, 464 p., illus., $8.50-$10.

THE DEVELOPMENT OF RATIONALISM AND EMPIRICISM—George de Santillana and Edgar Zilsel—*Univ. of Chicago Press*, 94 p., $1. (International Encyclopedia of Unified Science, Vol. II, No. 8).

ENJOYMENT OF SCIENCE—Jonathan Norton Leonard—*Doubleday, Doran*, 327 p., $2.50.

THE NEW INTERNATIONAL YEAR BOOK, 1941 —Charles Earle Fund, editor; Ronald Stuart Kain, Mamie Harmon, associate editors — *Funk & Wagnalls*, 766 p., illus., $4.25.

PAPERS OF THE MICHIGAN ACADEMY OF SCIENCE, ARTS AND LETTERS (Vol. XXVIII, 1941)—Eugene S. McCartney and William C. Steere—*Univ. of Mich. Press*, 713 p., illus., $5.

RESEARCH—A NATIONAL RESOURCE, II—Industrial Research—National Resources Planning Board—*Govt. Print. Off.*, 369 p., $1.

SCIENCE AND MAN—Ruth Nanda Anshen, ed. —*Harcourt, Brace*, 494 p., $4.

SCIENCE EDUCATION IN CONSUMER BUYING —George L. Bush—*Teachers College, Columbia University*, 228 p., $2.35.

THE SCIENTIFIC ATTITUDE—C. H. Waddington—*Penguin*, 128 p., 25c.

TEACHER'S GUIDEBOOK FOR SCIENCE PROBLEMS, Book 3—Wilbur L. Beauchamp, John C. Mayfield and Joe Young West—*Scott, Foresman*, 298 p., 32c.

Geography

ARGENTINA — Laszlo Fodor, ed. — *Hastings House*, 75 p., illus., $1.75.

HAMMOND'S HOME AND OFFICE ATLAS OF THE WORLD—*C. S. Hammond & Co., Inc.*, 176 p. (100 colored maps), $3.

PACIFIC BATTLE MAP—Ernest Dudley Chase— *Published by the Cartographer, 1000 Washington St., Boston, Mass.*, 50c.

PHYSICAL GEOGRAPHY—Albert L. Seeman— *Prentice-Hall*, 437 p., illus., $3.50.

RICO, The Young Rancher — Patricia Crew Fleming — 64 p.; SKY HIGH IN BOLIVIA — Ruth Cady Adams—64 p.; CHILDREN OF MEXICO—Dorothy Childs Hogner—64 p.; RICHES OF CENTRAL AMERICA—V. Wolfgang Von Hagen—64 p.; AROUND THE YEAR IN ICELAND—Elizabeth Yates—64 p.; SIX GREAT MEN OF BRAZIL—Vera Kelsey—63 p.; OOTAH AND HIS PUPPY—Marie Ahnighito Peary — 64 p.; UP CANADA WAY — Helen Dickson—64 p., illus. in color, 40c each, *Heath*.

Geology

ADVENTURES IN SCENERY, A POPULAR READER OF CALIFORNIA GEOLOGY—Daniel E. Willard—*Jaques Cattell Press*, 438 p., illus., $3.75.

FAUNAL CONTENT OF THE MARYVILLE FORMATION — Charles E. Resser — *Smithsonian Inst.*, 8 p., 5c.

INTERPRETATION OF GEOLOGIC MAPS AND AERIAL PHOTOGRAPHS—A. J. Eardley—*Published by Author, Dept. of Geology, Univ. of Mich., Ann Arbor, Mich.*—99 p., illus., $1.50.

SO THAT'S GEOLOGY!—R. Ray Baker—*Reilly & Lee*, 128 p., illus., $1.

STRATIGRAPHIC TYPE OIL FIELDS — A. I. Levorsen, ed.—*Amer. Assn. of Petroleum Geologists*, 902 p., diagrams, map, $5.50.

Mathematics

CALCULUS—Alfred L. Nelson, Karl W. Folley and William M. Borgman—*Heath*, 356 p., $2.75.

ESSENTIALS OF TRIGONOMETRY With Applications—David Raymond Curtiss and Elton James Moulton, 94 p.; HEATH'S LOGARITHMIC AND TRIGONOMETRIC TABLES (Rev. ed.) —Earnest Jackson Oglesby, 94 p., *Heath*, $2.25. (Bound together).

THE LAPLACE TRANSFORM—David Vernon Widder—*Princeton Univ. Press*, 406 p., $6.

MATHEMATICS FOR THE AVIATION TRADES — James Naidich—*McGraw-Hill*, 267 p., $1.80.

MATHEMATICS IN AGRICULTURE—R. V. McGee—*Prentice-Hall*, 189 p., Trade, $4; School, $3.

OPERATIONAL METHODS IN APPLIED MATHEMATICS — H. S. Carslaw and J. C. Jaeger — *Oxford Univ. Press*, 264 p., $5.

TO DISCOVER MATHEMATICS—Gaylord M. Merriman—*Wiley*, 435 p., $3.

Medicine

COMMUNICABLE DISEASE NURSING — Theresa I. Lynch—*Mosby*, 678 p., illus., $3.75.

CONTROLLED FERTILITY, An Evaluation of Clinic Service—Regine K. Stix and Frank W. Notestein—*Williams and Wilkins*, 201 p., $3.

DIAGNOSTIC SIGNS, REFLEXES AND SYNDROMES. Standardized (2d. ed., rev.)—Wil-

liam Egbert Robertson and Harold F. Robertson—*Davis*, 327 p., $3.50.

DOCTORS ANONYMOUS, The Story of Laboratory Medicine—William McKee German—*Duell, Sloan and Pearce*, 300 p., $2.75.

FIRST AID PRIMER—Hermann Leslie Wenger and Eleanora Sense—*Barrows*, 104 p., illus.. $1.

LAMPS ON THE PRAIRIE, A History of Nursing in Kansas—Compiled by the Writers' Program of the Work Projects Administration in the State of Kansas—*Kansas State Nurses' Assn.*, 292 p., illus., $3.,

A MANUAL OF ENDOCRINE THERAPY — Bernard L. Cinberg—*Chemical Pub. Co.*, 178 p., $3.25.

THE MAYOS, Pioneers in Medicine — Adolph Regli—*Messner*, 248 p., $2.50.

OUR SEX LIFE, A Guide and Counsellor for Everyone (2d. ed.) — Fritz Kahn — *Knopf*, 459 p., $5.75.

PREPAYMENT PLANS FOR MEDICAL CARE — Franz Goldmann, 60 p.; ORGANIZATION AND ADMINISTRATION OF GROUP MEDICAL PRACTICE—Dean A. Clark, and Katherine D. Clark, 109 p.; BUSINESS PROCEDURES—Perry R. Taylor, 109 p.—*Edward A. Filene Good Will Fund, Boston*, 25c each; 10 to 30 copies, 20c each; over 30 copies, 16c each.

THE PUBLIC HEALTH NURSE IN ACTION — Marguerite Wales—*Macmillan*, 437 p., $2.75.

SYNOPSIS OF APPLIED PATHOLOGICAL CHEMISTRY—Jerome E. Andes and A. G. Eaton —*Mosby*, 428 p., illus., $4.

TEACHING PREVENTIVE MEDICINE TO MEDICAL STUDENTS, With Special Reference to the Use of Health Department Facilities—Hugh R. Leavell—*Commonwealth Fund*, 77 p., 25c.

Military Science, Defense

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INSTRUCTOR'S GUIDE BOOK FOR TRAINING DRIVERS FOR CIVILIAN DEFENSE — Traffic Engineering & Safety Dept., American Automobile Association—*Available only through local A. A. A. Motor Club*, 123 p.

PLANNING THE WAR—Clive Garsia—*Penguin*, 151 p., 25c

SWORD OF FREEDOM, The Story of the United States Army—Charles W. Campbell—*Electrographic Corporation*, illus., 50c.

WHAT THE CITIZEN SHOULD KNOW ABOUT MODERN WAR—Fletcher Pratt—*Norton*, 184 p., illus., $2.50.

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ORNITHOLOGISTS OF THE UNITED STATES ARMY MEDICAL CORPS — Edgar Erskine Hume—*Johns Hopkins Press*, 583 p., illus., $5.

OUTWITTING THE HAZARDS, Youth Attacks the Accident Problem—Francis L. Bacon—*Silver Burdett*, 446 p., illus., $1.80.

A PILOT'S METEOROLOGY — Charles Greham Halpine—*Van Nostrand*, 220 p., illus., 3 folded maps, $2.50.

THE QUANTITY OF VAPOROUS WATER IN THE ATMOSPHERE — C. G. Abbot — *Smithsonian Inst.*, 7 p., 5c. (Smithsonian Misc. Coll., Vol. 101, No. 12.)

Photography

ELEMENTS OF PHOTOGRAMMETRY—George D. Whitmore—*International Textbook Co.*, 136 p., illus., $1.75.

KODACHROME, A Data Book on Photography in Color—*Eastman Kodak Company*, 52 p., illus., 25c.

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Physics

COLLEGE PHYSICS—A Wilmer Duff and Morton Masius—*Longmans, Green*, 588 p., diagrams, $3.80.

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FOOD AND BEVERAGE ANALYSES (2d ed.)—Milton Arlanden Bridges and Marjorie R. Mattice—*Lea & Febiger*, 344 p., $4.

FOOD FOR THOUGHT, The School's Responsibility in Nutrition Education—U. S. Office of Education—*Govt. Print. Off.*, 32 p., illus., 15c. (Education and National Defense Series Pamphlet No. 22.)

HEALTH IN SCHOOLS (20th yearbook)—American Association of School Administrators—*National Education Association of the U. S.*, 544 p., illus., $2.

THE HEARING OF SCHOOL CHILDREN, A Statistical Study of Audiometric and Clinical Records—Antonio Ciocco and Carroll E. Palmer —*Society for Research in Child Development, National Research Council*, 77 p., $1.

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SMOKE ABATEMENT, What Has Been Done and Is Being Done Today to Abate This Nuisance—L. Vernon Briggs—*Old Corner Book Store Inc., 50 Bromfield Street, Boston, Mass.*, 175 p., $2.50.

THE VALUE OF HEALTH TO A CITY, Two Lectures Delivered in 1873—Max Von Pettenkofer; Henry E. Sigerist, trans.—*Johns Hopkins Press*, 52 p., $1.

Political Science

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AMERICA ORGANIZES TO WIN THE WAR, A Handbook on the American War Effort—President Roosevelt and others—*Harcourt, Brace*, 395 p., $2.

AMERICA'S STRATEGY IN WORLD POLITICS, The United States and the Balance of Power —Nicholas John Spykman—*Harcourt, Brace*, 500 p., $3.75.

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YOUR FOREIGN POLICY: How, What, and Why—Robert Aura Smith—*Viking*, 280 p., $2.75.

Psychology, Psychiatry

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FOUNDATIONS FOR A SCIENCE OF PERSONALITY—Andras Angyal—*Commonwealth Fund*, 398 p., $2.25.

FRUSTRATION AND REGRESSION: An Experiment with Young Children—Roger Barker, Tamara Dembo and Kurt Lewin—*University of Iowa*, 314 p., $1.35 paper, $1.70 cloth.

SOCIAL LEARNING AND IMITATION—Neal E. E. Miller and John Dollard—*Yale Univ. Press*, 341 p., $3.50.

THE USE OF PERSONAL DOCUMENTS IN PSYCHOLOGICAL SCIENCE—Gordon W. Allport—*Social Science Research Council*, 210 p., $1.50.

YOUR PERSONALITY—Introvert or Extravert?—Virginia Case—*Macmillan*, 277 p., $2.50.

Zoology

AMPHIPOD CRUSTACEANS COLLECTED ON THE PRESIDENTIAL CRUISE OF 1938—Clarence R. Shoemaker—*Smithsonian Institution,* 52 p., illus., 30c. (Smithsonian Miscellaneous Collections, Vol. 101, no. 11.)

BEES OF THE FAMILY HYLAEIDAE FROM THE ETHIOPIAN REGION—T. D. A. Cockerell—*Smithsonian Institution,* 15 p., 10c. (Smithsonian Miscellaneous Collections, Vol. 101, No. 8.)

BEETLES OF THE GENUS HYPERASPIS INHABITING THE UNITED STATES—Th. Dobzhansky—*Smithsonian Institution,* 93 p., illus., 35c. (Miscellaneous Collections, Vol. 101, No. 6.)

A CONTRIBUTION TOWARD A BIBLIOGRAPHY ON NORTH AMERICAN FUR ANIMALS—Lee E. Yeager—*Illinois Natural History Survey*—208 mimeographed p., 50c.

DEVESCOVINID FLAGELLATES OF TERMITES, II: The Genera Caduceia and Macrotrichomonas—Harold Kirby—*Univ. of Calif. Press,* 72 p., 22 pl., $1.

THE FORAMINIFERA OF THE TROPICAL PACIFIC COLLECTIONS OF THE "ALBATROSS," 1899-1900, Part 3—Heterohelicidae and Buliminidae—Joseph Augustine Cushman—*Govt. Print. Off.,* 67 p., 15 pl., 20c. (U. S. National Museum, Bull. 161.)

NOTES OF SOME AMERICAN FRESH-WATER AMPHIPOD CRUSTACEANS AND DESCRIPTIONS OF A NEW GENUS AND TWO NEW SPECIES—Clarence R. Shoemaker—*Smithsonian Institution,* 30 p., illus., 20c. (Smithsonian Miscellaneous Collections, Vol. 101, No. 9.)

TWENTY LITTLE FISHES—Ida M. Mellen—*Messner,* 53 p., illus., $2.

Science News Letter, May 23, 1942

SCIENCE CLUBS OF AMERICA

Sponsored by Science Service

NEWS OF CLUBS

WASHINGTON, D. C.—Since May 15 thousands of graduating high school pupils have been taking the first nation-wide examination ever held. It is being administered at their own schools for the more than $12,000 in scholarships and all-expense trips to Washington, D. C. These prizes will be awarded to outstanding high school seniors who come out best in the First Annual Talent Search conducted by Science Clubs of America and sponsored by Science Service of Washington, D. C. This Talent Search, made possible by a grant from the Westinghouse Electric & Manufacturing Company, is designed expressly for the purpose of discovering outstanding qualifications of leadership among students who are desirous of furthering their scientific studies. It closes midnight June 1. Forty boys and girls will be invited to Washington for July 13, 14 and 15 and there the final selection will be made. Eighteen students will receive $200 each toward expenses in any college of their own choice. One boy and one girl will receive $2,400 each ($600 a year for the four years of college study).

BROOKLYN, N. Y.—After capturing three out of a possible five scholarship ratings at the Oneonta Science Congress, Oneonta, N. Y., members of the Chem Squad returned to their classes at Girls Commercial High School, Brooklyn, N. Y. (Scholarship ratings are for a statewide convention to be held at Cornell University where more scholarships will be awarded.) Accompanied by their sponsor, Mildred Erxmeyer, fourteen girls made the trip to the Oneonta (N. Y.) Science Congress. The first scholarship rating was awarded to Catherine Mulroy, of Girls Commercial High School, Brooklyn, for a demonstration of "Plastics for Defense". Second scholarship rating went to Audrey Dumont for "Development of Polystyrene" and the fifth scholarship rating was awarded to Minna Schaffer for a demonstration of "New Plastics." In addition to the scholarship rating Catherine Mulroy was awarded a scholarship to Hartwick College, Oneonta, N. Y.

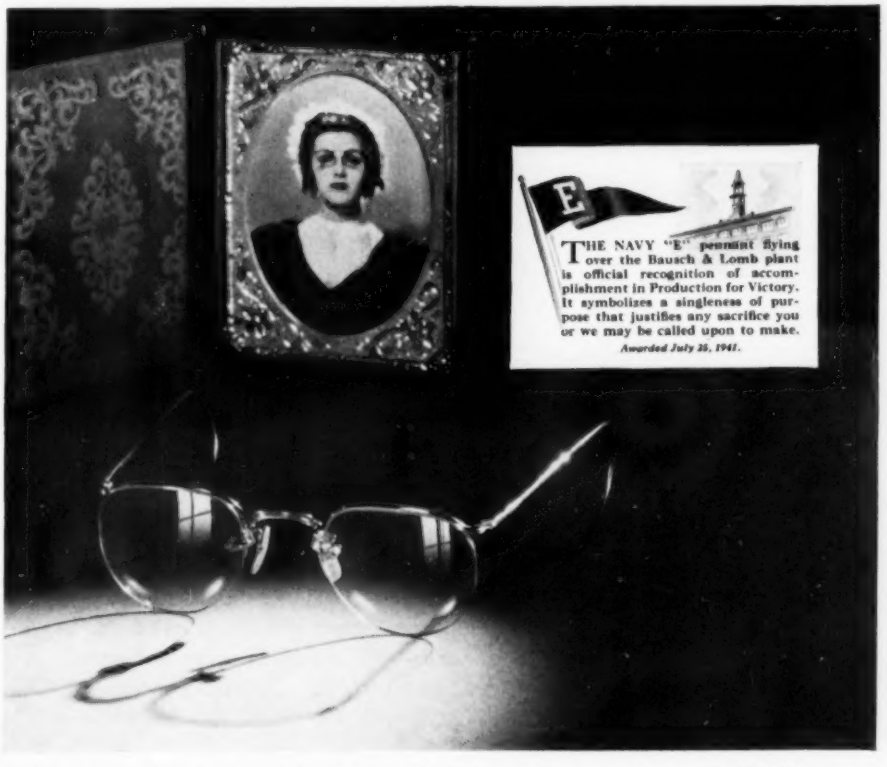
ONEONTA, N. Y.—More than 300 visitors were attracted to the Science Congress, sponsored by the Oneonta Science Center and the Chem Squad of the Oneonta High School. The grand prize, $15 in war stamps, was won by Margaret White of Walton for a demonstration of "Surface Films." Stewart Brooks of Sidney won the $200 scholarship to Hamilton College. Catherine Mulroy of Brooklyn, won the Hartwick College Scholarship. Beverly Nichols of Oneonta High School received the scholarship for Elmira College.

The New York State Science Teachers Association will sponsor a state-wide scholarship competition at Cornell University in July. The Misses Mulroy, Dumont, Schaffer and Nichols (mentioned in the previous reports) and Arnold Flack of Oneonta High School will compete with others for the honors at this state-wide congress.

BALTIMORE, Md. — Specimens of various types of ores, metals and gems occurring in Maryland and utilization of these minerals in commercial and industrial work is the subject of one of the exhibits of the Maryland Junior Science Fair being held from May 17 to May 28 at the Maryland Academy of Sciences. The mineral exhibit was entered by a student of the Hamilton Junior High School. Also to be shown is a chemical Formulator which by means of electrical contacts indicates the correct formulas of chemicals. Dr. William G. Camp directs the activities of the Maryland Science Center.

Science News Letter, May 23, 1942

Clubs are invited to become affiliated with SCA for a nominal $2 for 20 members or less. You can become an associate of SCA for 25 cents. Address: Science Clubs of America, 1719 N St., N.W., Washington, D. C.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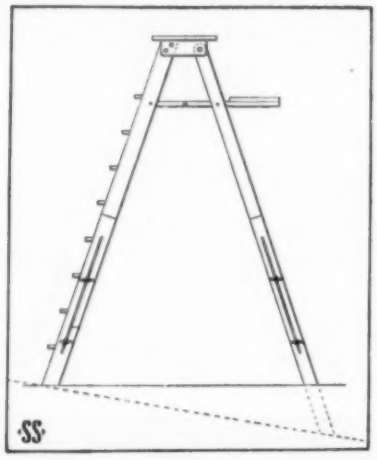
New Machines And Gadgets

Novel Things for War-Time Living

Ice cubes can now be individually extracted from the refrigerator without having to thaw out a whole trayfull. Each cube has its own container, a little plastic cup, made of ethyl cellulose. Twelve of them are carried on a rack from which they are easily lifted after freezing. A little pressure on the slightly tapering sides or on the bottom of the flexible cup easily removes the ice cube. Very little metal is required for the rack.

Ladies, protect your open toes! A protector has recently been patented which slips over the open-toed shoe covering just the hole, thus preventing mud, dirt, or water from entering when you are out walking. Once in the house, the protector can be removed.



An extensible stepladder has lately been patented in which each of the four legs can be independently lengthened somewhat so that the ladder can be adapted to sloping or uneven ground and still maintain horizontal steps and a level top. The illustration shows how, if the ground slopes down, the back legs can be lengthened. If the ground slopes sideways, the legs on one side can be lengthened.

Adhesive blackout paper which can be instantly applied to a window pane and afterwards pulled off, like scotch tape, should help to solve the problem of the occasional blackout. Any adhesive remaining on the window after the paper is pulled off can be removed with a little turpentine.

A small plastic cup is helping the automobile mechanic to loosen quickly the "frozen" studs or nuts in a cylinder head, and so to speed up those "carbon and valve" jobs so important today in keeping your car in condition. The cup is screwed onto the stud and solvent is poured in. It trickles down through tiny holes in the bottom of the cup and dissolves corrosion around the stud. This is faster and more economical than squirting solvent around the stud, and leaves the mechanic free for other tasks while the solvent is working. The cup is made of a cellulose acetate plastic which is transparent and not easily broken.

Sales tax tokens are now being made of fiber in several states to save war-needed metals. The weight is about half that of aluminum. The fiber, which is strong and tough and readily embossed, can also be used for identification tags, name plates and all kinds of markers.

The glare of the photographic flashlight can be reduced and the sharp shadows softened by merely dipping the bulb in a special chemical solution and allowing to dry. This takes about a minute and leaves a film that allows the actinic rays to pass but cuts out some of the longer wavelengths. The result is a soft, velvety light that does not harm the eyes, but is efficient photographically.

A picture of a picture is taken by a new small-size X-ray outfit developed to enable health authorities to examine thousands of children and adults for unsuspected tuberculosis more quickly and less expensively. The X-rays throw a picture of the person's lungs on a fluorescent screen and a 4x5 picture of this picture is taken with an ordinary camera with a special lens. The reduced picture is still large enough to show all necessary details on an illuminator, and saves much space in handling and filing. Some of these outfits are being used to examine prospective soldiers for the Army.

If you want more information on the new things described here, send a three-cent stamp to SCIENCE SERVICE, *1719 N St., N. W., Washington, D. C., and ask for Gadget Bulletin 105.*

Science News Letter, May 23, 1942

Some 30,000 *muskrats* which eventually will grace the shoulders of American and Canadian women, are being trapped this spring by Indians on the Two Island Preserve, near The Pas, Manitoba, Canada.

Message to TEACHERS

Science advances—12 months of the year. This is true even more this year because science advances at an accelerated pace during War time. It is just as important to keep informed on science as it is on the various battle fronts of the world.

What new inventions, what new discoveries, what new *knowledge* is science uncovering? You will want to know all during the summer.

In past years there have been some teachers who have not received Science News Letter during their summer vacations, but who resubscribed every fall. Science, however, doesn't take a vacation.

The twice-a-year complete indexes, cross-indexed by the name of the scientist and subject, make the year-round file of Science News Letter valuable in reference work for students and for yourself. A school year subscription naturally omits some of this valuable reference material.

While you are taking your school vacation, let Science News Letter work for you filling in during the summer months, the complete news of science.

To Science News Letter, 1719 N St., N. W., Washington, D. C.

Keep my Science News Letters coming during the summer—don't let the subscription lapse. (Please fill in your name and address as it appears in the margin of the last page of this issue.)

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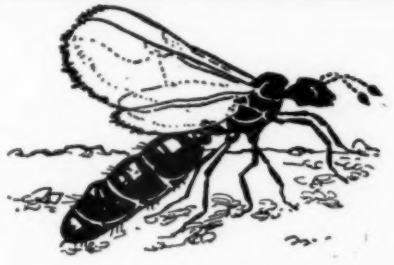
BACTERIOLOGY

NATURE RAMBLINGS

by Frank Thone



Germs of Health

SOME germs promote health and life, instead of acting as enemies.

Elie Metchnikoff, pioneer Russian bacteriologist, found a connection between the long and healthy lives of Slavic peasants and their habit of using large quantities of sour milk. Milk is soured by a particular kind of bacillus, and this bacillus seems to be a very assertive kind of a creature, quite unfriendly toward almost all neighbors. At any rate, it makes life impossible for the swarming miscellaneous mob in the digestive tract, that so readily poisons us and makes us feel headachy and miserable. So now we have "acidophilous milk," inhabited by a particularly husky strain of this milk-souring bacillus, sold at many groceries and all the drugstores.

To some animals, microbes are necessary to life itself. The classic example is the termite. Termites eat wood, as many of us know to severe cost. Termites live on wood, yet they cannot digest wood. Termites with their bellies full of well-chewed wood will starve to death, unless they also have in their insides a population of a certain species of protozoön, which do their digesting for them. It was long thought that termites were the only insects thus dependent for their digestive powers upon microörganisms, but the same condition has been found in others, notably certain forest-inhabiting cockroaches, which are zoological second-cousins of termites.

A curious situation, that may involve the activities of internal microörganisms (possibly bacteria) has been turned up recently at a number of widely separated research centers. It was found that hoofed animals could put on flesh when a considerable part of their ration consisted of inorganic nitrogen compounds. This is completely unorthodox, for all animals are supposed to be able to form their own proteins only out of the broken-down proteins of plants or of other animals. Only plants are supposed to be equipped to make proteins out of inorganic substances containing nitrogen. The explanation, very cautiously and tentatively offered, for this unanimal-like conduct on the part of the livestock was that bacteria or other organisms in their digestive tracts built up proteins out of the inorganic salts, and that the animals then digested the proteins.

Microbial assistance to larger plants is of course an old story. Here the classic examples are the legumes, plants of the pea-bean-clover family. Just as animals are supposed not to be able to make proteins except out of previously-existing proteins, the higher plants are unable to capture and weave into their life substance any of the almost limitless supply of free nitrogen in the air. But colonies of bacteria that find shelter in lumps or nodules on the roots of legumes do capture this nitrogen and convert it into compounds which their hosts are able to utilize. It is this alliance with nitrogen-capturing microörganisms that makes legumes so useful in maintaining the fertility of the soil.

Science News Letter, May 23, 1942

PUBLIC HEALTH

Live Mouse Found On Airliner From Puerto Rico

THE U. S. Public Health Service has published a report of what it believes is the first discovery of a live mouse on a passenger plane in quarantine.

The animal was found in the galley of an airliner from San Juan, Puerto Rico, after the plane landed at the quarantine station in Miami, Fla.

The Federal health service points out that mice have been found to carry the germ of lymphocytic chorio-meningitis, a dangerous but little known disease which attacks humans. More important, they state, is the possibility of plague-infected rats boarding planes unknown to passengers or crew. The possibility is not remote now that foodstuffs, which attract rats, are carried in increasing amounts by transport planes for passenger meal service.

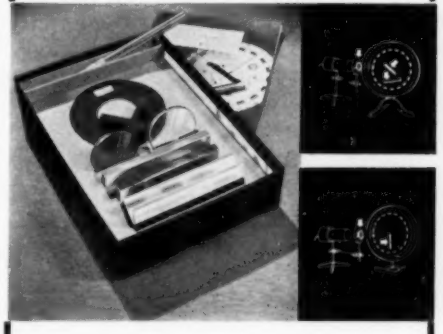
Plague germs have been found on fleas from rats and wild rodents in a number of western and mid-western states.

Redoubled vigilance on the part of plane companies and quarantine officers is urged.

Science News Letter, May 23, 1942

Use the Optical Disc for Polarization Experiments with this

New Polaroid* Kit



With this inexpensive new kit as an accessory, the Optical Disc may be used for showing classes in elementary science and physics the principles of polarized light now so important in everyday life. The kit contains one Polaroid J-Filter, a double-refracting disc, metal V-block holder, strip of black glass, a strip of Polaroid J-Glass, viewing screen, all of which attach to the face of the disc in the usual manner. Also: 48-page text and instruction manual.

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•First Glances at New Books

ENGINEERING

WARTIME BUILDING CONSTRUCTION—*Chemical Publishing Co.*, 151 p., illus., $4. A British work reprinted here to acquaint American builders with the results of British wartime experience.

Science News Letter, May 23, 1942

ARCHAEOLOGY

SUMERIAN LITERATURE; A Preliminary Survey of the Oldest Literature in the World—S. N. Kramer—*American Philosophical Society* (Proceedings, Vol. 85, no. 3, Feb. 25, 1942, p. 293-323, 10 plates), 75c. See S. N. L. April 18, 1942, p. 254.

Science News Letter, May 23, 1942

MEDICINE

THE MARCH OF MEDICINE—New York Academy of Medicine Lectures to the Laity, 1941—*Columbia University Press*, 154 p., $2. This book tells something of how medicine has contributed to making human life happier not only through conquest of specific diseases but through broadening man's understanding of himself, his fellow men and the world they live in. The book is especially worth reading in these days of confusion and distress.

Science News Letter, May 23, 1942

TECHNOLOGY

PLASTICS DIGEST, Vol. I, No. 1, January, 1942—*Plastics Publishing Co.*, 39 p., $20 per year, monthly. News of new plastics patents and processes, abstracts of current articles, foreign news and new applications.

Science News Letter, May 23, 1942

PSYCHOLOGY

PSYCHOANALYTICAL METHOD AND THE DOCTRINE OF FREUD— Roland Dalbiez; translated by T. F. Lindsay—*Longmans, Green*, Vol. I, Exposition, 415 p.; Vol. II, Discussion, 331 p., $9 a set. Highly technical examination of Freud's works by a philosopher, seeking to answer criticisms of psychoanalysis based on logical and philosophical grounds.

Science News Letter, May 23, 1942

PHYSICS—ENGINEERING

PHYSICS FOR ENGINEERS—Sir Ambrose Fleming—*Chemical Pub. Co.*, 232 p., illus., $3. It is difficult to see why this book should have been addressed only to engineers. It is rather a brief and lucid survey of what every scientific man, whatever his special field may be, should know about present-day physics. The author is the inventor of the Fleming valve, the forerunner of the De Forest audion and the modern radio tube.

Science News Letter, May 23, 1942

• Just Off the Press •

ACID-BASE CATALYSIS—R. P. Bell—*Oxford Univ. Press*, 211 p., $3.50.

AMBASSADORS IN WHITE, The Story of American Tropical Medicine—Charles Morrow Wilson—*Holt*, 372 p., illus., $3.50.

ANALYTICAL CHEMISTRY, Volume II, Quantitative Analysis (9th ed.)—F. P. Treadwell and William T. Hall—*Wiley*, 806 p., $6

ANIMALS ARE MY HOBBY—Gertrude Davies Lintz—*McBride*, 301 p., illus., $2.75.

CATALOG OF THE TYPE SPECIMENS OF MAMMALS IN THE UNITED STATES NATIONAL MUSEUM, INCLUDING THE BIOLOGICAL SURVEYS COLLECTION—Arthur J. Poole and Viola S. Schantz—*Govt. Print. Off.*, 704 p., $1.25. (U. S. Natl. Museum Bull. 178).

DIRECTORY OF MEDICAL SPECIALISTS, Certified by American Boards, 1942—*Columbia Univ. Press*, 2495 p., $7.

DOCTOR BARD OF HYDE PARK, The Famous Physician of Revolutionary Times, the Man Who Saved Washington's Life—John Brett Langstaff—*Dutton*, 365 p., $3.75.

INTRODUCTION TO THE THEORY OF RELATIVITY—Peter Gabriel Bergmann—*Prentice-Hall*, 287 p., $4.50.

KODACHROME AND KODACOLOR FROM ALL ANGLES—Fred Bond—*Camera Craft*, 232 p., illus., $6.50.

MACHINE TOOLS AT WORK—Charles O. Herb—*Industrial Press*, 552 p., illus., $4.

1942 BRITANNICA BOOK OF THE YEAR—Walter Yust, ed.—*Encyclopaedia Britannica*, 756 p., illus., $10.

PHYSICS—Frank L. Robeson—*Macmillan*, 819 p., illus., $4.50.

THE RAT IN LABORATORY INVESTIGATION, by a Staff of Thirty Contributors—John Q. Griffith, Jr. and Edmond J. Farris, eds.—*Lippincott*, 488 p., illus., $7.50.

THE RECOVERY OF VAPORS, with Special Reference to Volatile Solvents—Clark Shove Robinson—*Reinhold*, 273 p., illus., $4.75.

SEVEN PAPERS IN GENETICS AND PHYSIOLOGICAL GENETICS OF DROSOPHILA MELANOGASTER—Richard Blanc and others—*Univ. of Calif. Press*, 183 p., illus., $2.

THE SUBMARINE AT WAR—A. M. Low—*Sheridan House*, 305 p., illus., $3.

A SYMPOSIUM ON THE STRUCTURE OF PROTOPLASM, A Monograph of the American Society of Plant Physiologists — William Seifriz, ed.—*Iowa State College Press*, 283 p., illus., $2.50.

TEMPERATURE AND EVOLUTION. ISOLATING MECHANISMS. GENETIC CONTROL OF EMBRYONIC DEVELOPMENT—Th. Dobzhansky, ed.—*Cattell Press*, 355 p., $3.50. (Biological Symposia, Vol. VI).

VOLUMETRIC ANALYSIS, Vol. I, Theoretical Fundamentals (2d ed., rev.)—I. M. Kolthoff and V. A. Stenger—*Interscience Publishers*, 309 p., $4.50.

COMMUNICATIONS

PRINT, RADIO, AND FILM IN A DEMOCRACY—Douglas Waples, ed.—*Univ. of Chicago Press*, 197 p., $2. Ten papers on the administration of mass communications in the public interest, read before an institute of the University of Chicago's graduate library school. Fundamental problems in connection with the effect of the mass means of getting information to the people are discussed. Since the beginning of the war, these problems have taken on additional and immediate importance.

Science News Letter, May 23, 1942

PHILOSOPHY—GENERAL SCIENCE

PHILOSOPHIES OF SCIENCE — Albert G. Ramsperger—*Crofts*, 304 p., $2.25. A useful consideration of science through the eyes and minds of philosophers. "There can be science without a philosophy of science. Nevertheless, if spectacular scientific advance has not been accompanied by a corresponding achievement in human values, the lack of an adequate philosophy of science may well be largely responsible."

Science News Letter, May 23, 1942

PSYCHOLOGY

THE CLINICAL APPLICATION OF THE RORSCHACH TEST—Ruth Bochner and Florence Halpern—*Grune & Stratton*, 216 p., $3. A valuable practical manual on the use of inkblot testing, based on the results of several years' application at Bellevue Psychiatric Hospital, and recommended to psychiatrists, psychologists or laymen interested in learning the Rorschach technique.

Science News Letter, May 23, 1942

PSYCHIATRY

LUNACY BECOMES US—Adolf Hitler and His Associates; Clara Leiser, ed.—*World Pub. Co.*, 138 p., 50c. Case material for study of a national psychosis. It consists of quotations from Nazi spokesmen.

Science News Letter, May 23, 1942

PHYSICS—BIOGRAPHY

PORTRAITS OF FAMOUS PHYSICISTS With Biographical Accounts—Henry Crew—*Scripta Mathematica*, 12 portraits, $3.75. Good black-and-white reproductions of portraits of Galileo, Huygens, Newton, Ampère, Fresnel, Faraday, Joule, Clausius, Maxwell, Gibbs, Hertz and Rowland. Suitable for framing.

Science News Letter, May 23, 1942